

MERCER

Investment Consulting

August 20, 2004

Total Fund Review – Second Quarter Board Meeting

Arizona State Retirement System

Terry A. Dennison

Los Angeles



Marsh & McLennan Companies

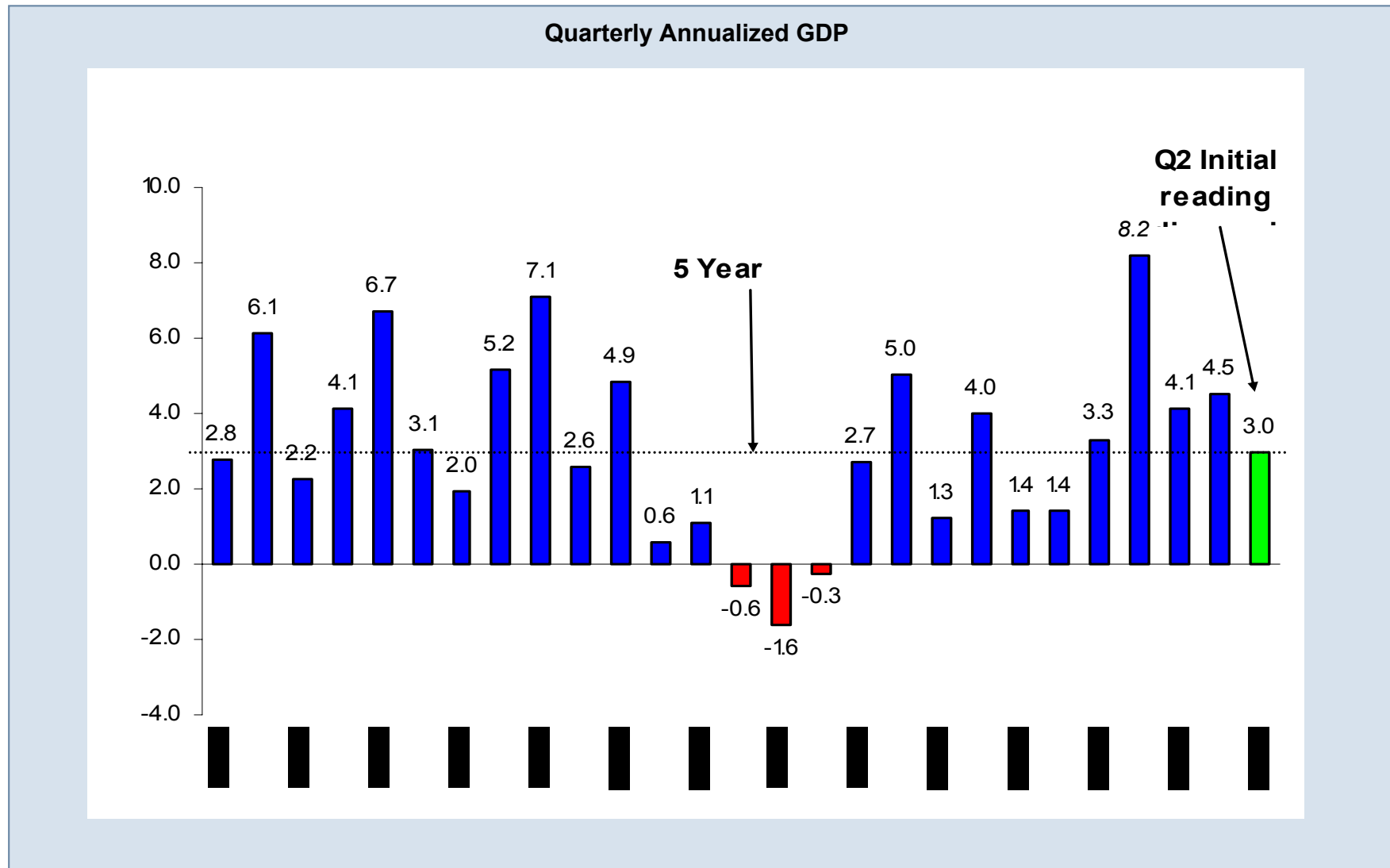


Economic Environment

Economic Recovery Slows Amid Signs of Inflation; Fed Begins to Raise Rates

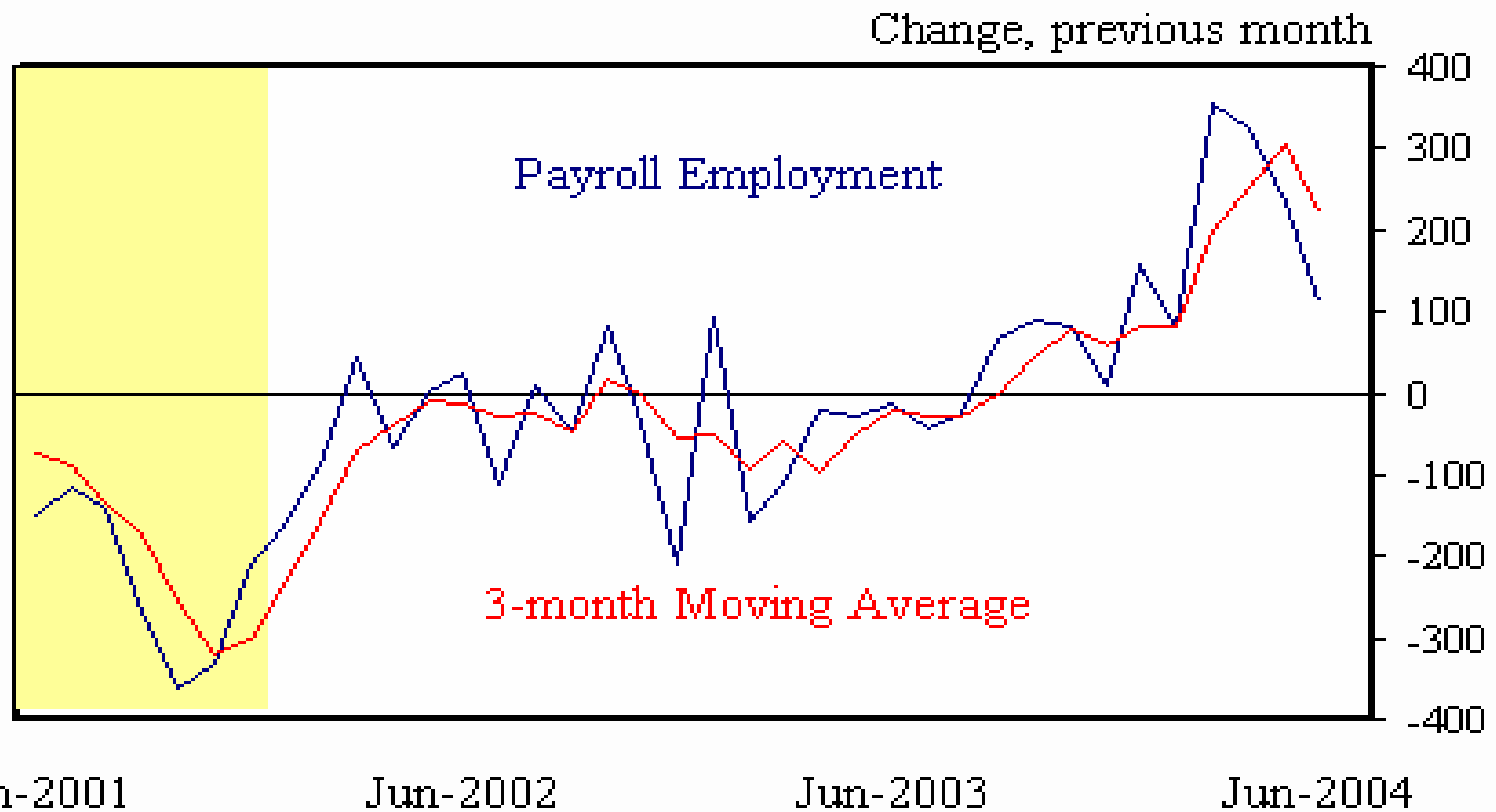
- The economy continued to expand but at a slower rate during the quarter. Productivity growth remained high, helping the bottom line for corporations. The initial government estimate of the second quarter GDP was 3.0%; final first quarter GDP revised to 3.9%.
- Jobs growth slowed unexpectedly in June following a three-month surge. Since year-end, the economy has added 1.3 million jobs. The unemployment rate fell slightly, ending the quarter at 5.6%.
- Consumer confidence hit a two-year high in June due to an improved labor market and recent wage increases. Retail sales slowed during the quarter, but were up 6.3% from a year ago.
- The housing market remained strong, though the statistics showed a slip in June. Housing permits soared 3.5% in May to the highest level since 1973.

GDP Shows Five Consecutive Quarters At or Above 5-Year Average



“Jobs Recovery” Slows, Particularly in June

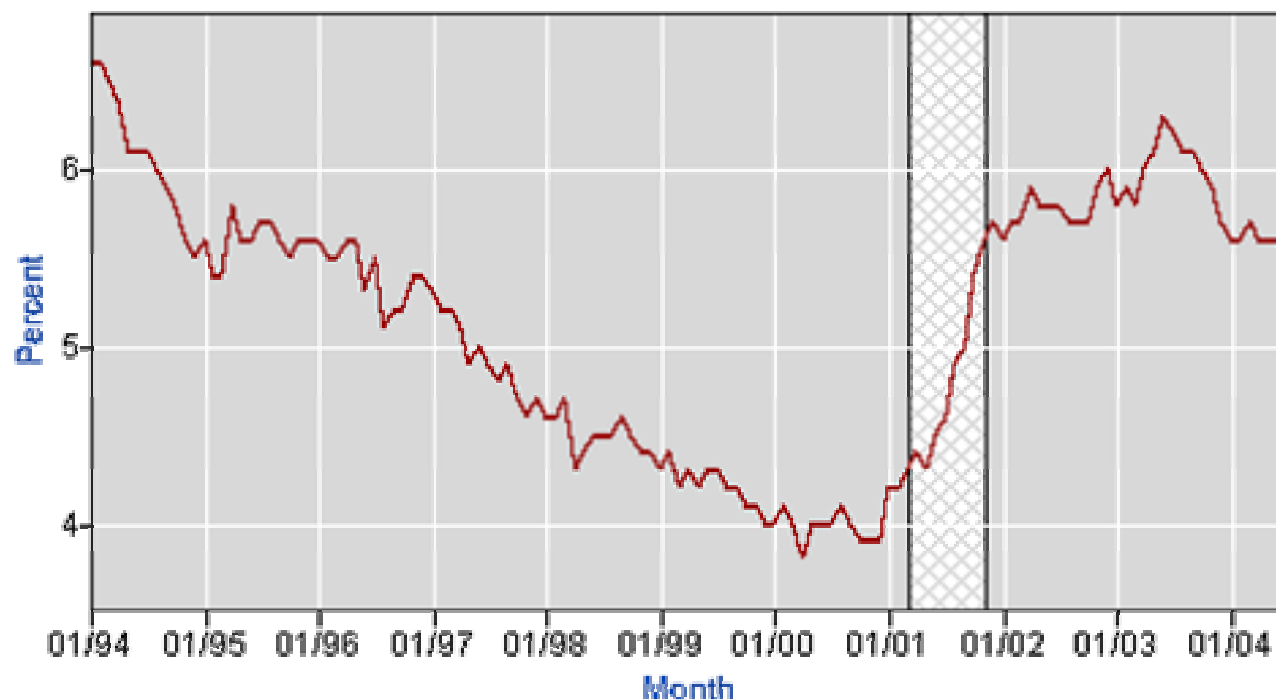
Payroll Employment



Shaded areas represent recessionary period

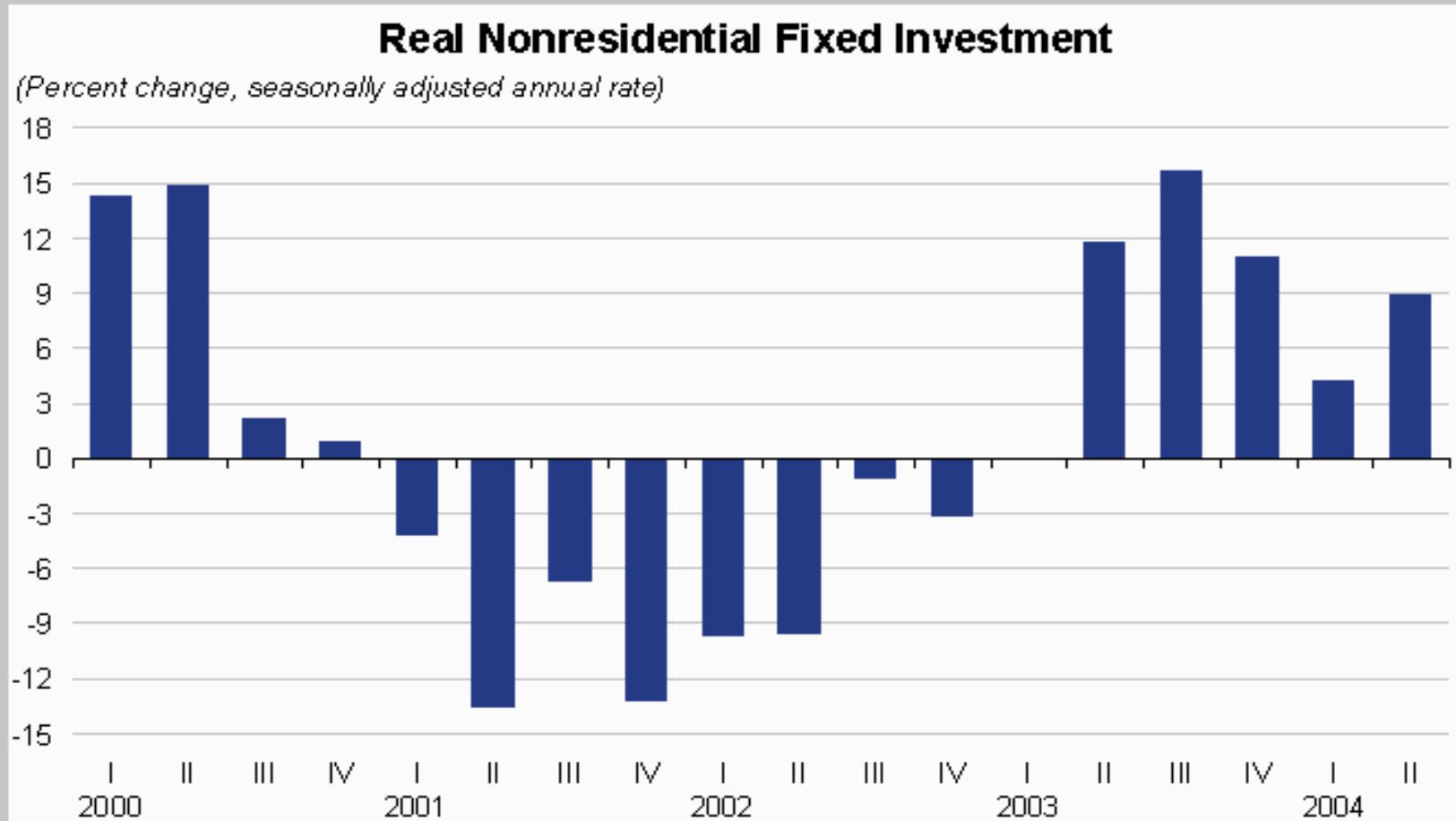
Unemployment Rate Declines Further but Rate of Decline Slows

Unemployment rate (seasonally adjusted)



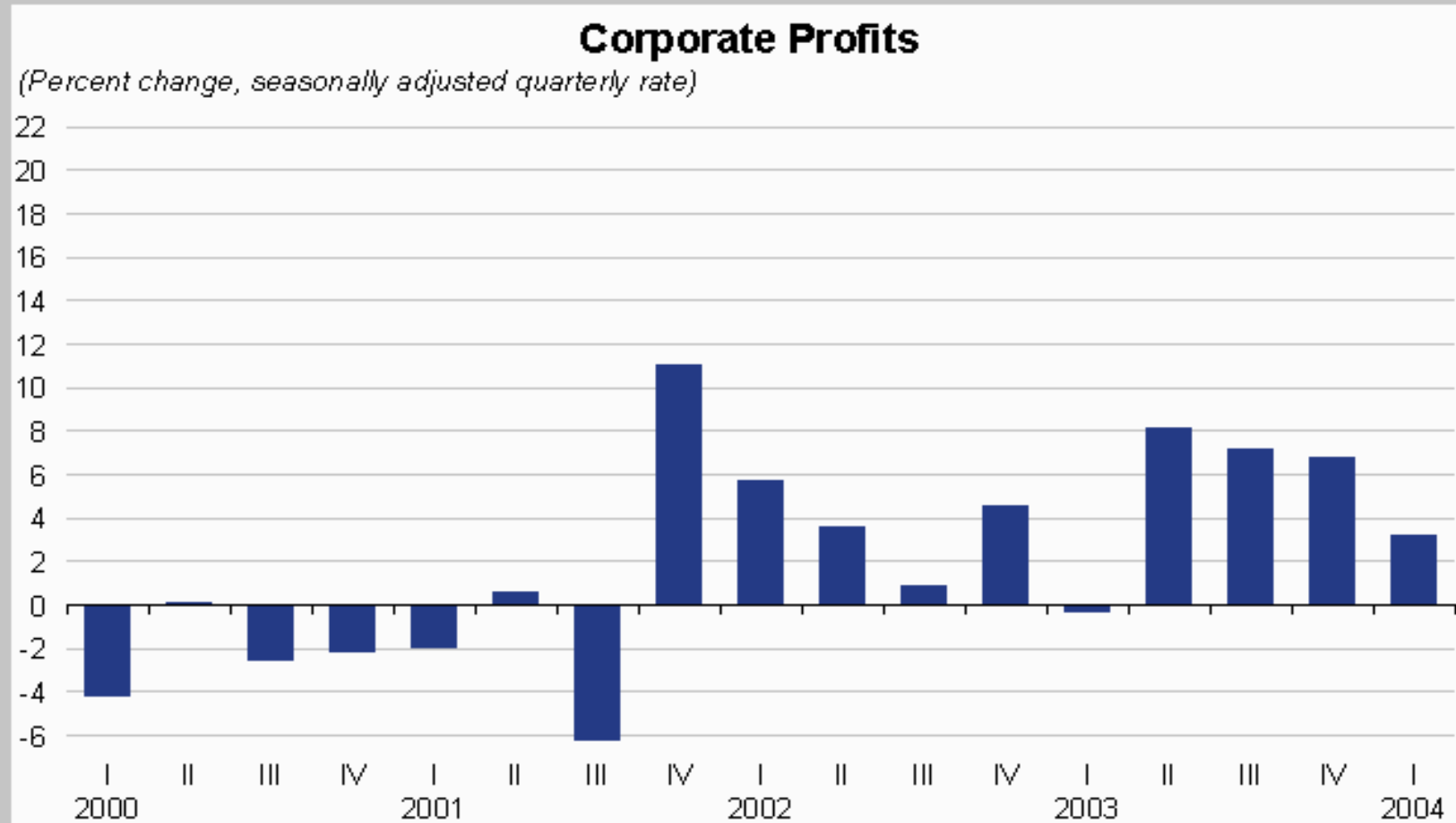
Note: Cross-hatched area represents recession. Vertical line indicates a break in series in January 1994 due to redesign of the survey.

Business Investment Continues to Show Improvement After Nine Down Quarters



U.S. Bureau of Economic Analysis

Corporate Profits Exhibiting Stable Growth



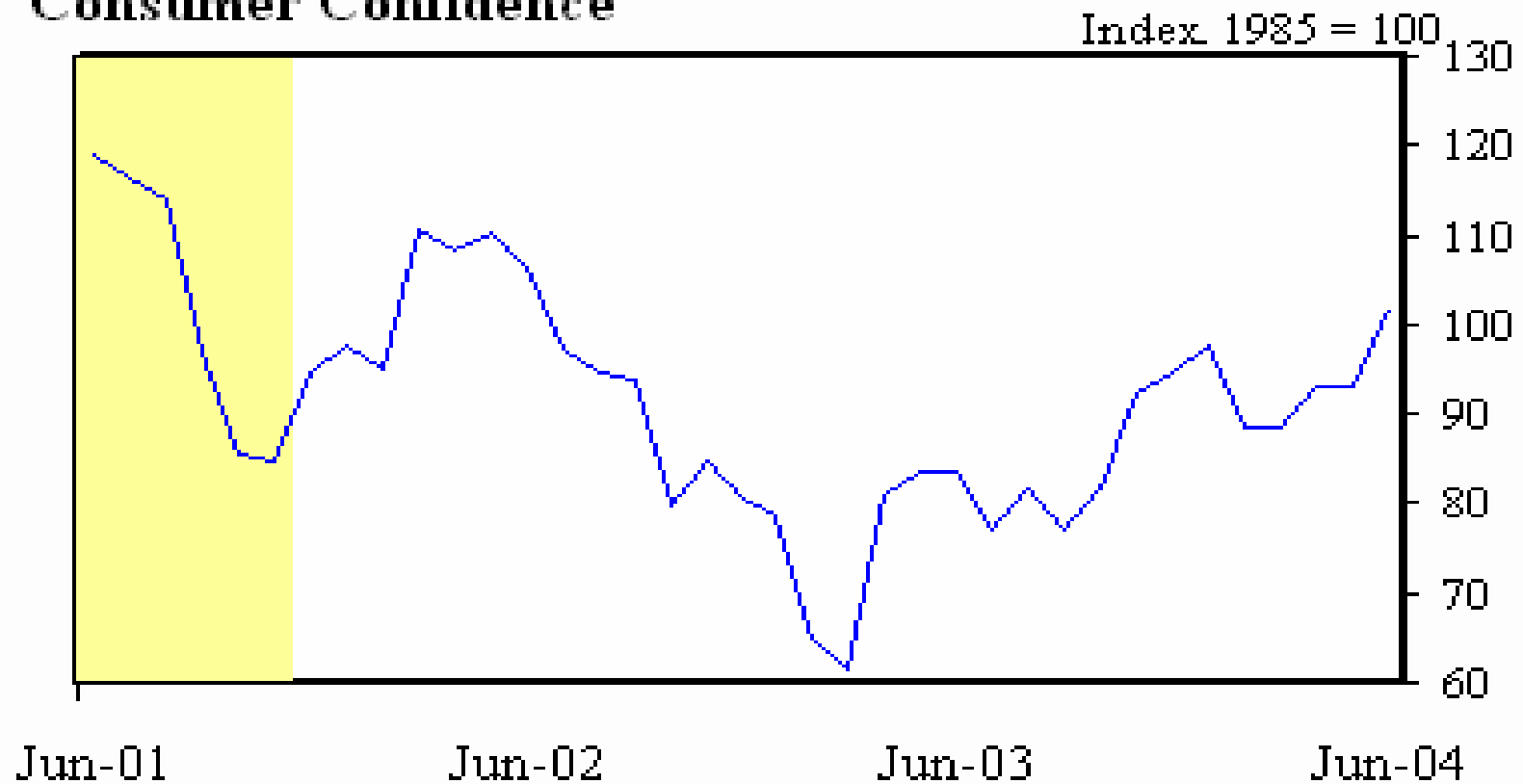
U.S. Bureau of Economic Analysis

Other Positive Indicators

- Capacity utilization and industrial production moving significantly higher.
- Consumer confidence rose in late July.
- Productivity rose in the first quarter, adding to the good news; however, July disappointed.
- New home sales surged in June to beat the record set in May.

Consumer Confidence Improves After a Decline in First Quarter

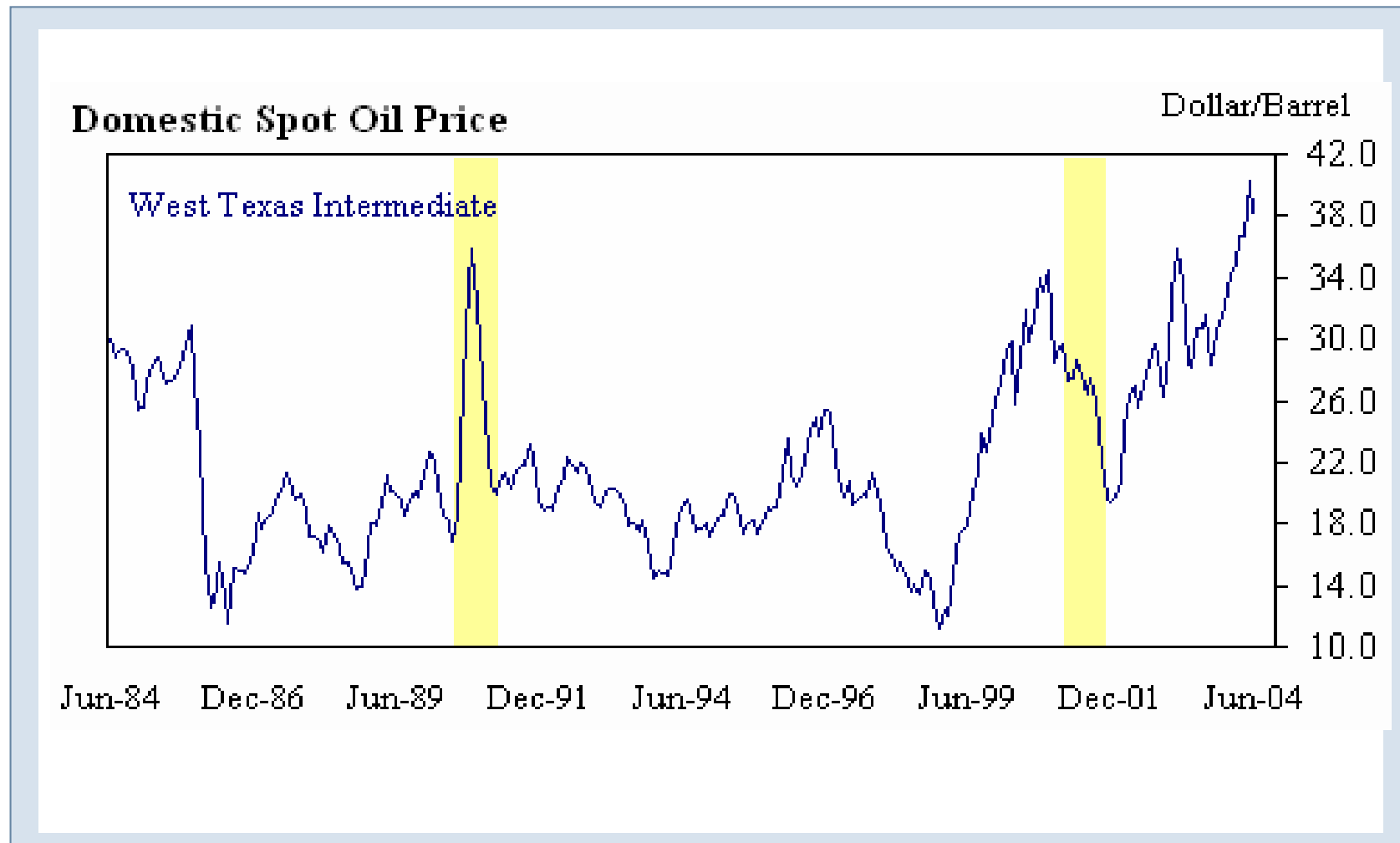
Consumer Confidence



Shaded areas represent recessionary period

Energy Prices Are a Drag on the Economy

West Texas Intermediate Price Is At a 20-Year High



Shaded areas represent recessionary period

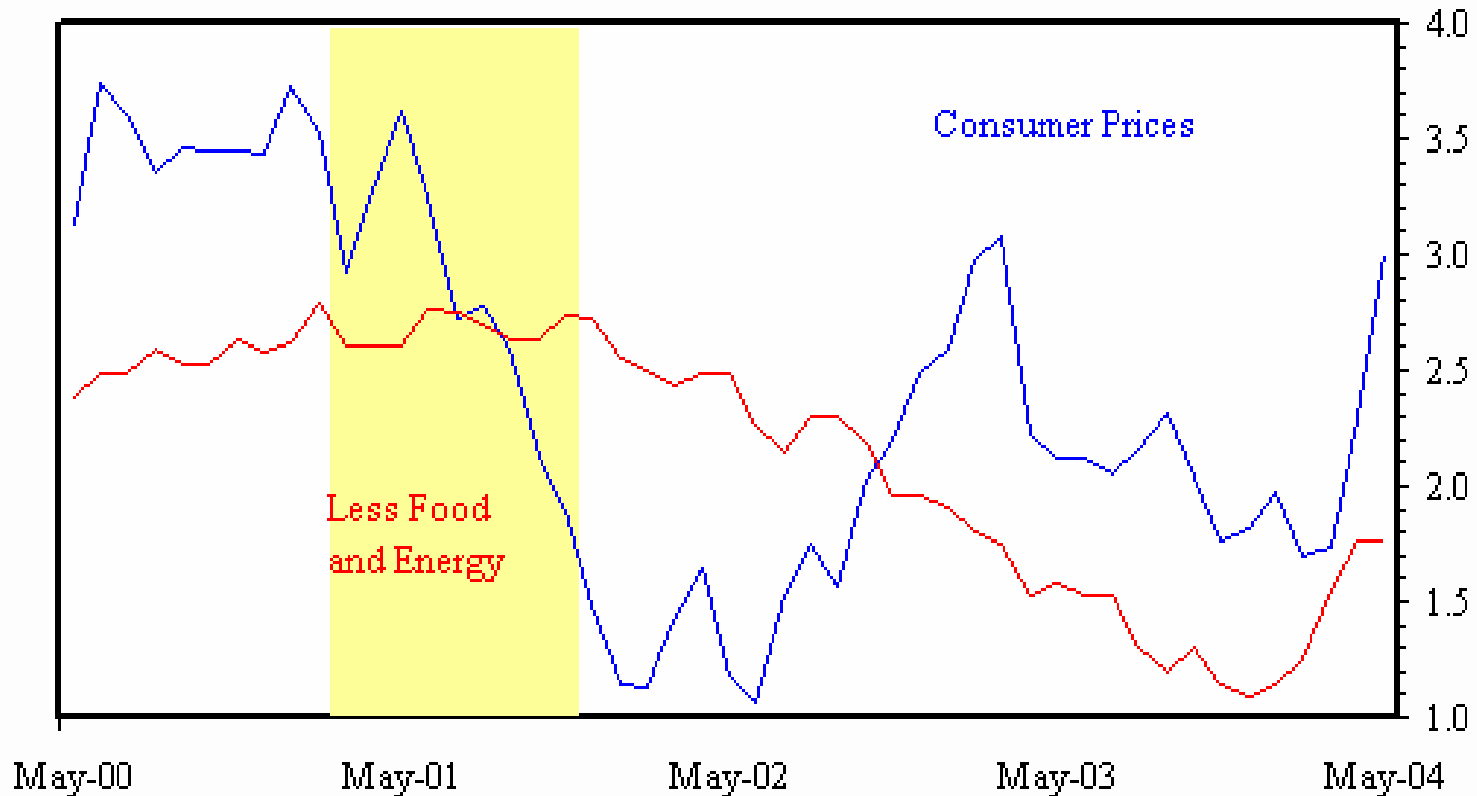
Inflation Continues to Be a Concern

- Inflation is down slightly from the first quarter, but still above last year's lows.
- The CPI during the second quarter of 2004 was about 5.0% annualized, down from the 6.9% of the first quarter.
 - Excluding energy and food, the CPI is up at around a 1.0% pa for the second quarter.
- On a trailing-year basis, the CPI is up 3.3%.
 - Excluding energy and food, it's up 1.1%.
- The top line Producer Price Index for Finished Goods has slowed. It is up about 6.8% pa over the last three months.
- The Fed's favorite measure of inflation – the price index for Personal Consumption Expenditures – rose 3.2% (annualized) in the first quarter. 2.0% PCE is considered the unofficial objective of Fed inflation policy.

Inflation Continues to Be a Concern

Consumer Price Index

Percent change, year-over-year



Shaded areas represent recessionary period

The Federal Reserve Starts Raising Interest Rates in a Measured Process

- Fed raised short rates 25 basis points in June.
 - Investors took the news in stride, and market reaction was not dramatic.
- In July, Alan Greenspan reiterated his commitment to measured responses to the economy. The market interprets this as 25 basis point increases in the discount rate each meeting until the end of the year.
- Despite the softening economic numbers in June and early July, Greenspan was upbeat about the economy. He said the slowdown was a natural consequence of higher oil prices and higher interest rates. The Fed believes that risks between inflation and growth are “balanced.”
- We expect long rates to rise another 25 or 50 basis points over the next year. Short rates should rise even more: 100 basis points or more.

The Budget Deficit Is a Concern

- The federal deficit is running slightly lower than first projected – around \$440 billion by September, the official fiscal year-end.
 - It is still less than 4.0% of our \$11.4 trillion economy.
 - During recessions, the deficit has typically peaked around 5% of GDP.
- The concern is that this huge deficit will crowd out private investment and raise interest rates. This is a valid concern if the deficits are projected to be unsustainably high in the long term.
- Economic growth is a big factor in the deficit. We estimate that for each 1% that growth is above average, federal revenues grow about 2% and vice-versa for when growth slows.
- The low level of interest rates indicates that the market isn't concerned about the deficit yet.



Securities Markets

US Equity Markets

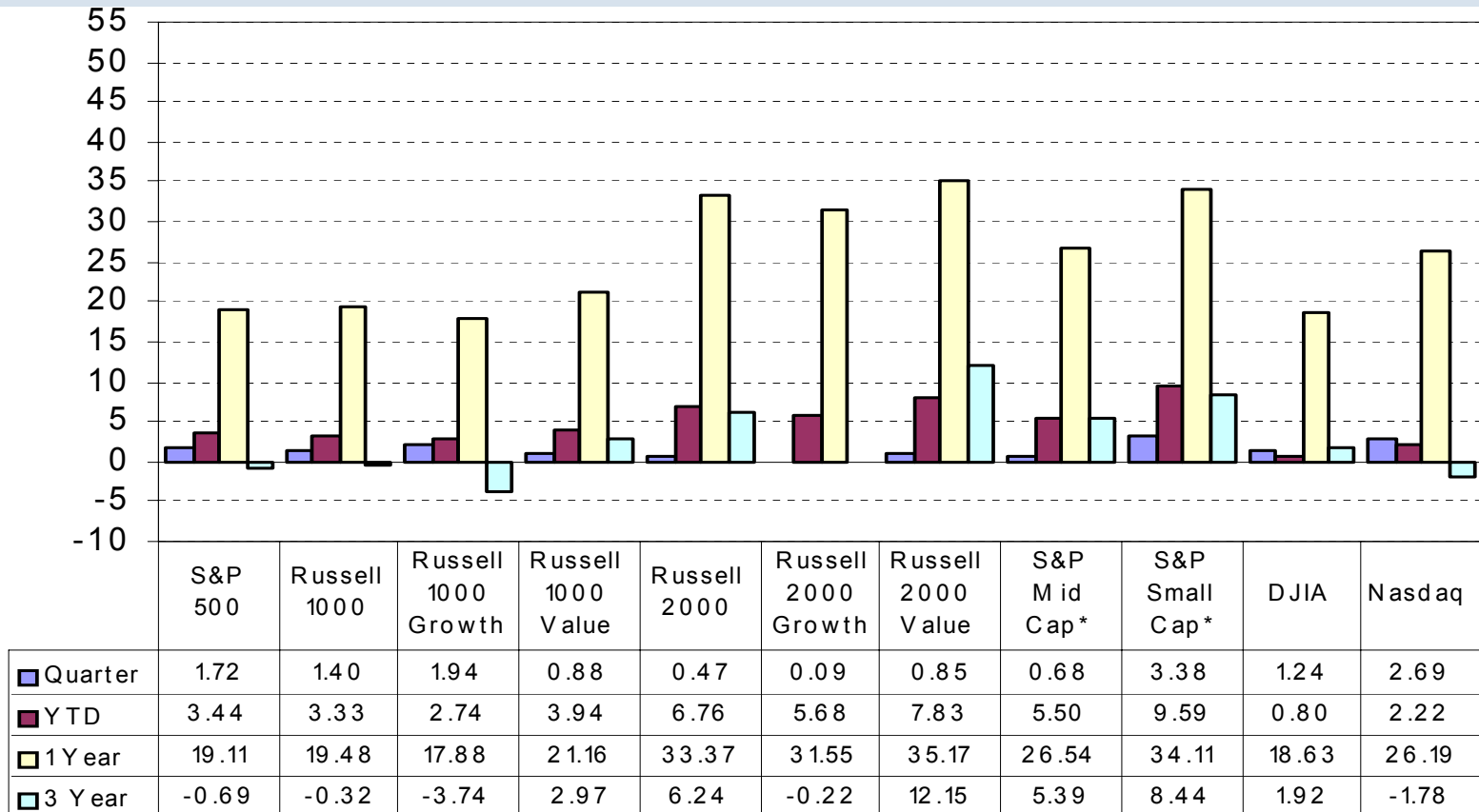
Large Cap Stocks Outpace Small Caps

- April posed the most difficulty for investors; May and June were much better.
- The large cap equity markets gained more ground than the small cap market, with the S&P 500 up 1.72% for the quarter vs. a modest 0.47% return for the Russell 2000.
- Growth stocks outperformed value in the large cap market segment (not true for small cap).
 - Sector strength came from industrial and energy companies.
 - Weakness in telecommunications, utilities, and financials.
- Quality stocks began to see improved returns.

US Equity Markets

Index Performance

Domestic Equity Returns



Source: Datastream; *Price Return Only

Positive Returns for Every Segment of the Market

- All returns are small.
- No obvious pattern by style and cap size.

2Q04 Returns	Value	Core	Growth
Large	0.88	1.40	1.94
Mid	1.73	1.45	1.06
Small	0.85	0.47	0.10
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

One-Year Returns Are Excellent

- One-year returns are very attractive but down a lot from where we were one quarter ago.
- Small caps were the place to be.

1-Year Returns	Value	Core	Growth
Large	21.13	19.47	17.89
Mid	30.81	29.40	27.33
Small	35.18	33.34	31.56
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

Three-Year Results Are Generally Positive

- Returns are below long-term expectations except for mid and small value.
- Small cap value returns are impressive.

3-Year Returns	Value	Core	Growth
Large	2.96	-0.32	-3.74
Mid	9.82	6.43	0.23
Small	12.16	6.23	-0.23

Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth

Three-Year Results Are Generally Positive

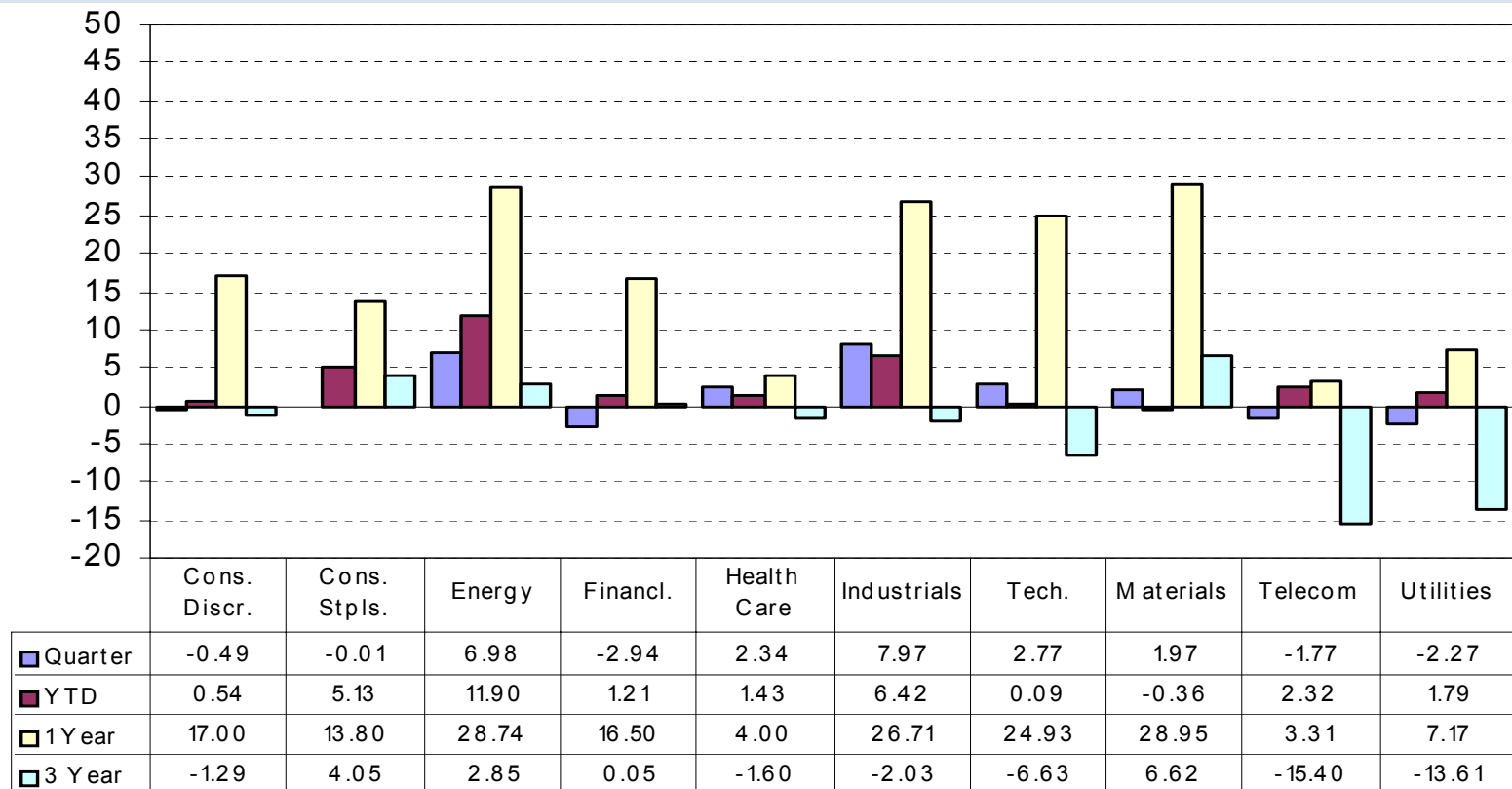
- Despite recovery, large growth fell more than 10%.
- Small value stocks increased by more than 41%.

Cumulative 3-Yr	Value	Core	Growth
Large	9.15	-0.96	-10.81
Mid	32.45	20.56	0.69
Small	41.10	19.88	-0.69
Note: Russell 1000, Mid-Cap, 2000 Indices; Value, Total, Growth			

US Equity Markets

Sector Returns

S&P 500 Returns by Sector



US Equity Markets

Top Positive and Negative Contributors

Stock	Return (%)	End of Quarter Weight	Prior Qtr Rank	Stock	Return (%)	End of Quarter Weight	Prior Qtr Rank
INTEL CORP	32.34%	1.95%	7	PFIZER INC	-10.60%	2.58%	5
MICROSOFT CORP	8.42%	3.26%	1	MERCK & CO INC	-15.79%	1.24%	14
CISCO SYS INC	16.68%	1.49%	11	VERIZON COMMUNICATIONS	-16.79%	0.97%	16
CITIGROUP INC	7.15%	2.55%	6	LILLY ELI & CO	-13.39%	0.73%	31
GENERAL ELEC CO	4.60%	3.25%	2	SBC COMMUNICATIONS INC	-11.42%	0.81%	23
INTERNATIONAL BUSINESS MACHS	7.26%	1.66%	8	VIACOM INC	-12.14%	0.73%	30
WAL MART STORES INC	4.06%	2.66%	3	COCA COLA CO	-6.96%	1.15%	15
TEXAS INSTRS INC	29.66%	0.43%	51	JOHNSON & JOHNSON	-3.75%	1.60%	10
MORGAN STANLEY	18.57%	0.60%	38	HEWLETT PACKARD CO	-8.73%	0.64%	34
LOWES COS INC	20.90%	0.44%	48	BELLSOUTH CORP	-10.21%	0.48%	44
AMERICAN INTL GROUP INC	4.68%	1.64%	9	SCHERING PLOUGH CORP	-17.15%	0.24%	85
MERRILL LYNCH & CO INC	15.02%	0.55%	41	AOL TIME WARNER INC	-6.09%	0.74%	29
EXXON MOBIL CORP	2.62%	2.65%	4	SUN MICROSYSTEMS INC	-28.82%	0.12%	187
MOTOROLA INC	27.15%	0.30%	72	ORACLE CORP	-6.33%	0.64%	35
PROCTER & GAMBLE CO	4.59%	1.31%	12	HOME DEPOT INC	-3.62%	0.80%	24
E M C CORP MASS	20.63%	0.30%	73	CARDINAL HEALTH INC	-9.14%	0.28%	76
CATERPILLAR INC DEL	24.31%	0.26%	80	COSTCO WHSL CORP NEW	-14.89%	0.15%	141
QUALCOMM INC	16.14%	0.36%	59	CLEAR CHANNEL COMMUNICATIONS	-9.41%	0.26%	81
AMERICAN EXPRESS CO	8.01%	0.63%	36	BRISTOL MYERS SQUIBB CO	-4.46%	0.54%	42
3M CO	8.13%	0.59%	40	QWEST COMMUNICATIONS INTL INC	-28.87%	0.06%	316
DELL INC	4.96%	0.93%	19	ALTRIA GROUP INC	-2.11%	0.97%	17
APPLIED MATLS INC	14.46%	0.33%	64	RAYTHEON CO	-14.13%	0.13%	169
UNITED TECHNOLOGIES CORP	9.49%	0.39%	55	FIRSTENERGY CORP	-16.06%	0.10%	218
FEDERAL NATL MTG ASSN	4.76%	0.75%	28	EASTMAN KODAK CO	-23.44%	0.07%	309
GENERAL MTRS CORP	15.08%	0.25%	82	AMGEN INC	-2.15%	0.91%	20

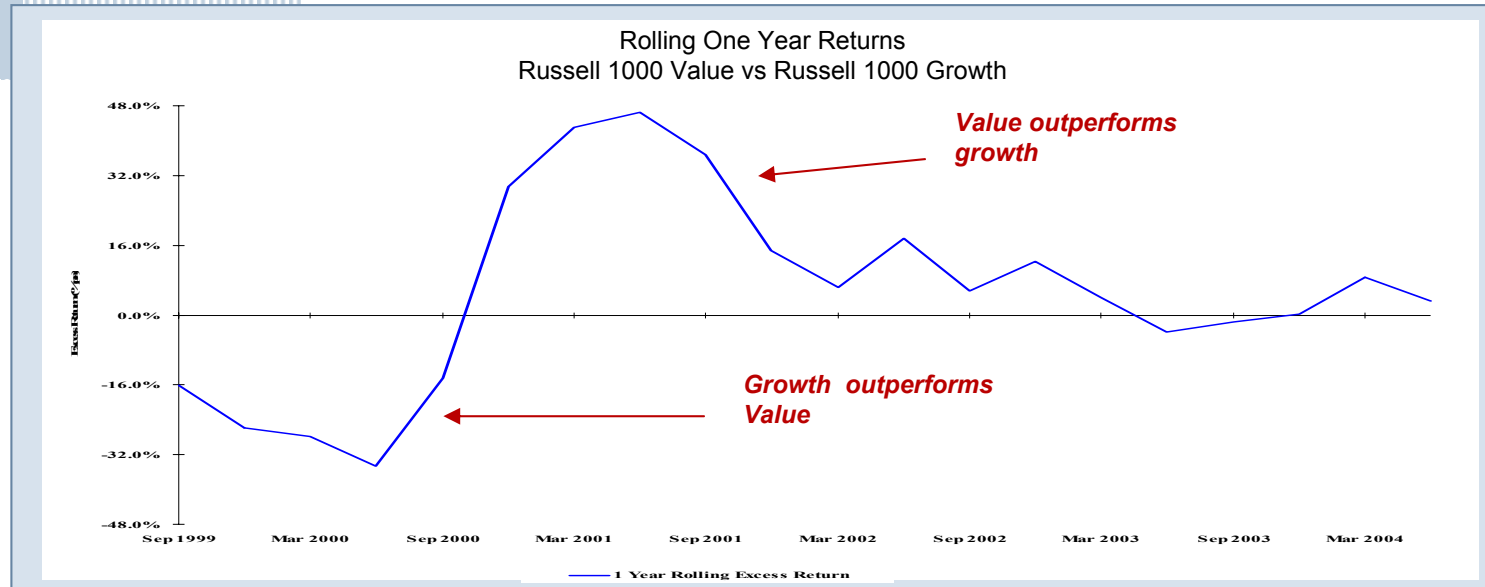
Data Source: Compustat

Report Date: July 27, 2004

Utilities	Cons. Non Durables/Services	Cap Goods	Financials	Health Care	Basic Inds	Info. Tech	Energy	Cons Durables	Transportation
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Value and Growth Are About Balanced

Returns



Returns

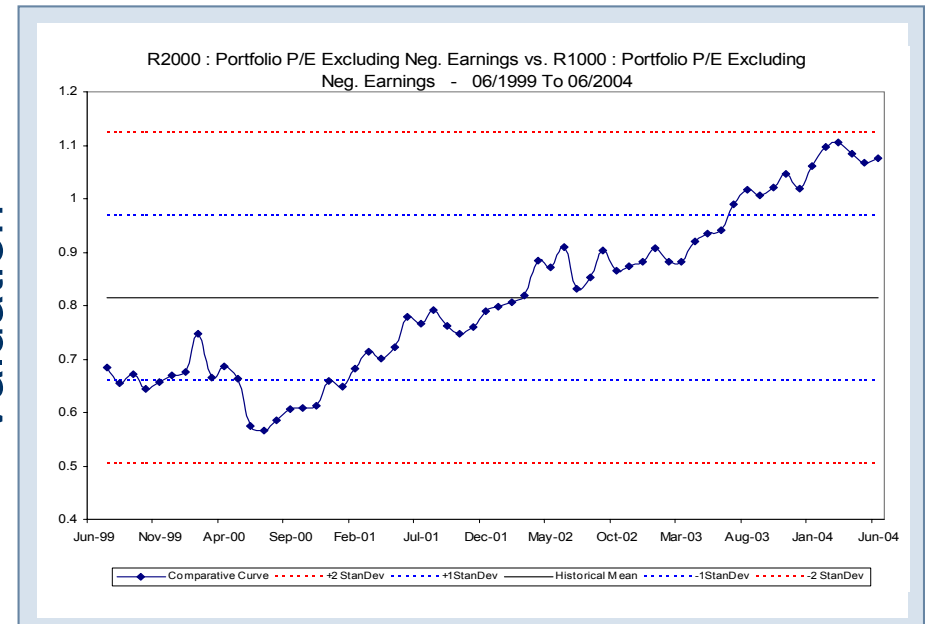


Small Cap vs Large Cap Performance Moves Toward a More Neutral Level

Returns



Valuation



Valuation difference between small and large is still considerable.

Non-US Equity Markets

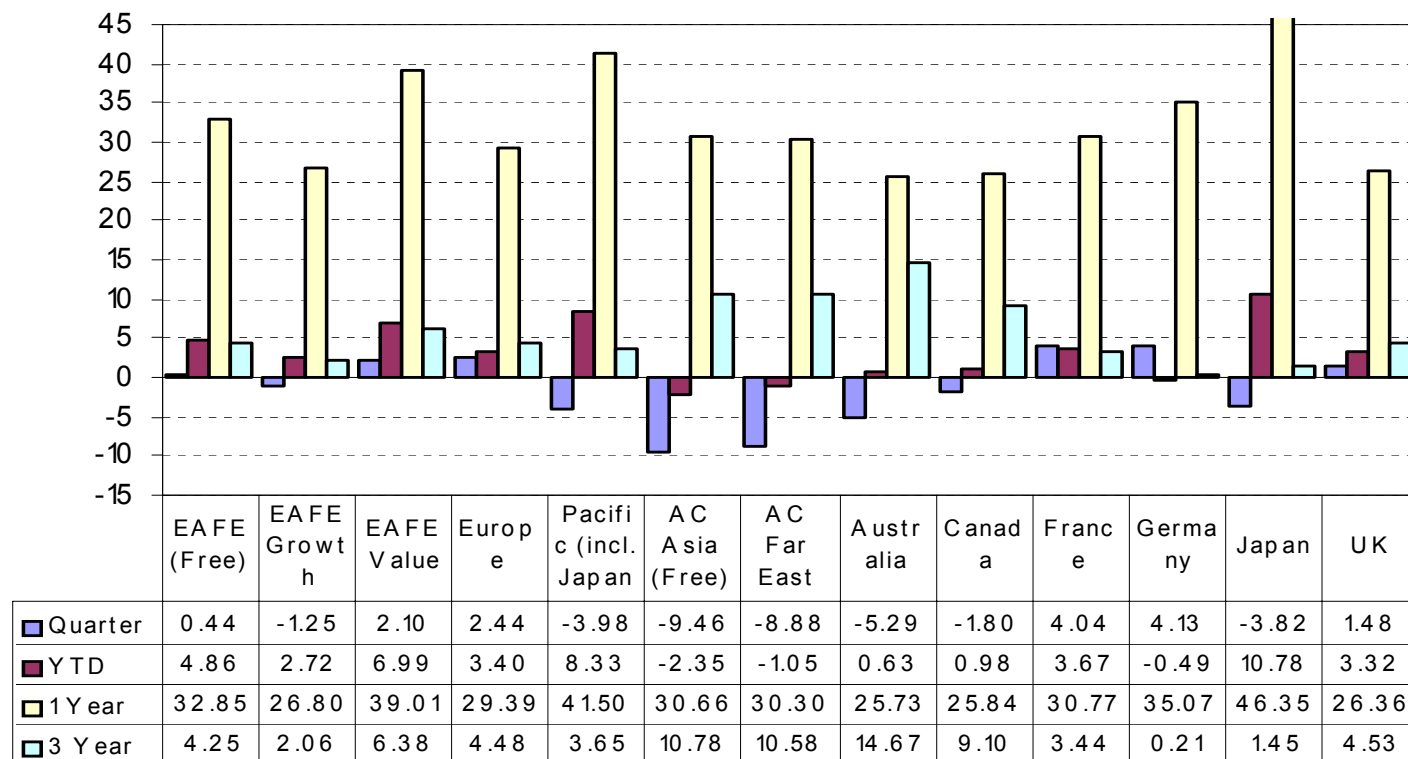
International Equities Provide a Very Small Positive Return

- The MSCI EAFE gained a modest 0.4% during the quarter.
 - Europe (France, Germany, UK) posted stronger returns for the quarter, with investors preferring the safety of this region as opposed to the Far East.
 - The Far East developed countries such as Singapore, Hong Kong, and Japan were negatively impacted by the news that China would attempt to moderate its growth.
- A slightly stronger dollar impeded returns for the quarter.
- Value equities generally fared better than growth during the quarter.

Non-US Equity Markets

EAFE Regional Performance

MSCI Regional Index Returns (US\$)



Source: Datastream

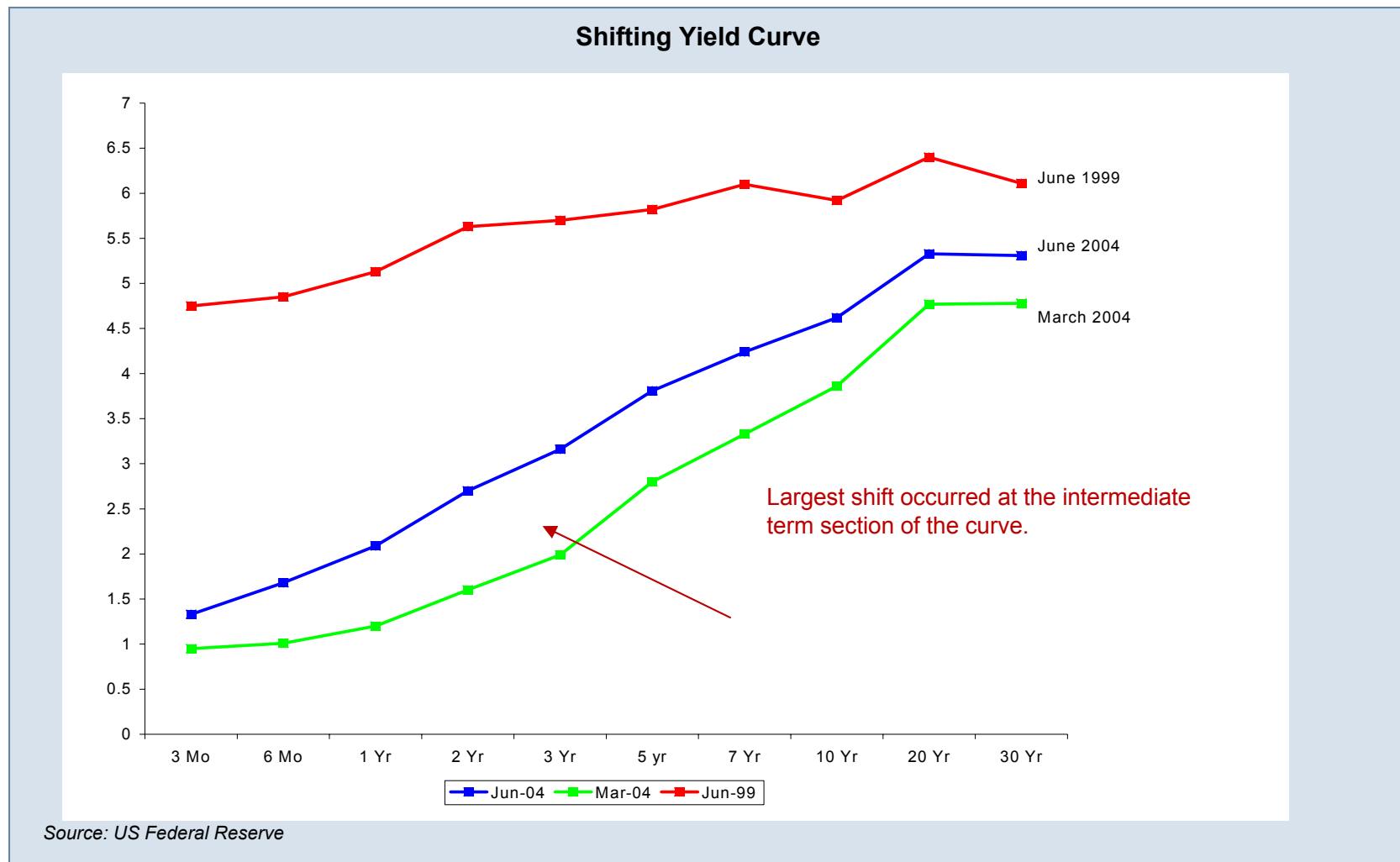
Fixed Income Markets

Bonds Decline in Face Of Rising Rates and Inflation Fears

- The LB Aggregate Index dropped 2.4% during the quarter.
 - US Treasuries outpaced corporate issues.
- Long bonds faced the most difficulty during the quarter, declining by over 5%.
- Short maturity bonds and mortgage-backed securities held up better than other sectors in the face of rising rates.
- If rates continue to rise, yield curve positioning is critical to relative bond performance.

Interest Rate Increase Is Not Uniform

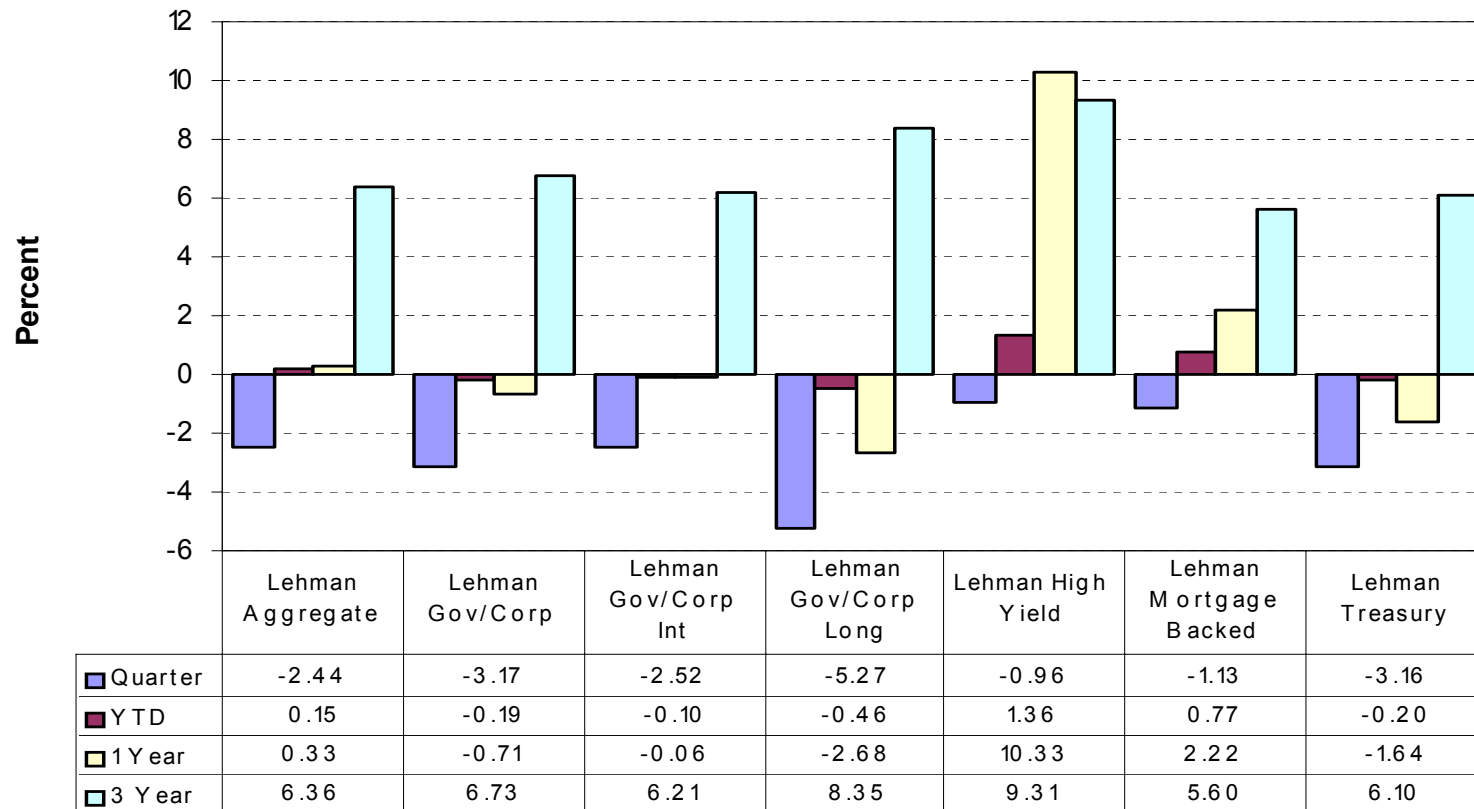
Rates in the Intermediate Area Increased the Most



Fixed Income Markets

Index Performance

Domestic Fixed Income Returns

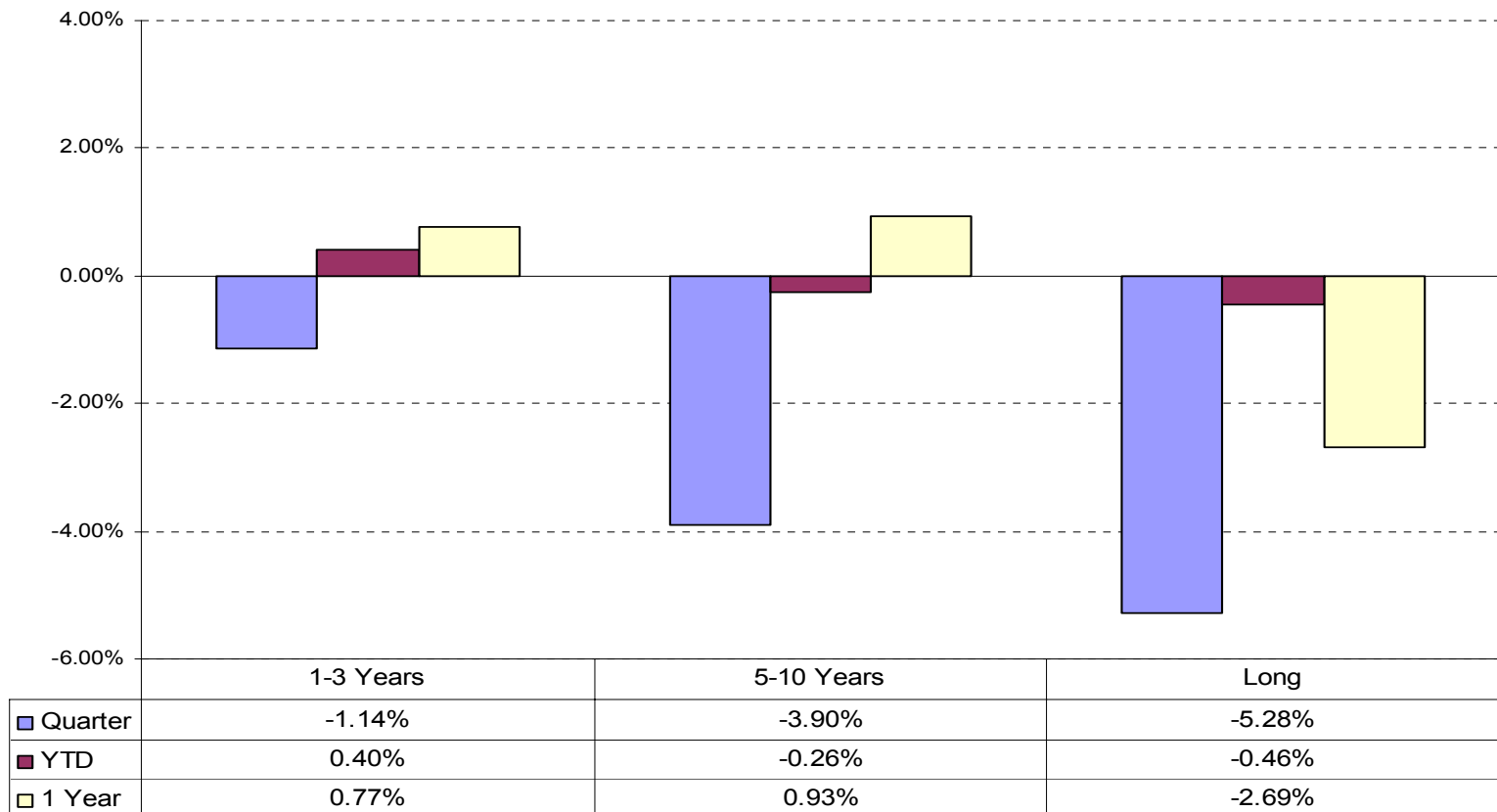


Source: Datastream

Fixed Income Markets

Maturity Range Performance

Fixed Income Returns by Maturity

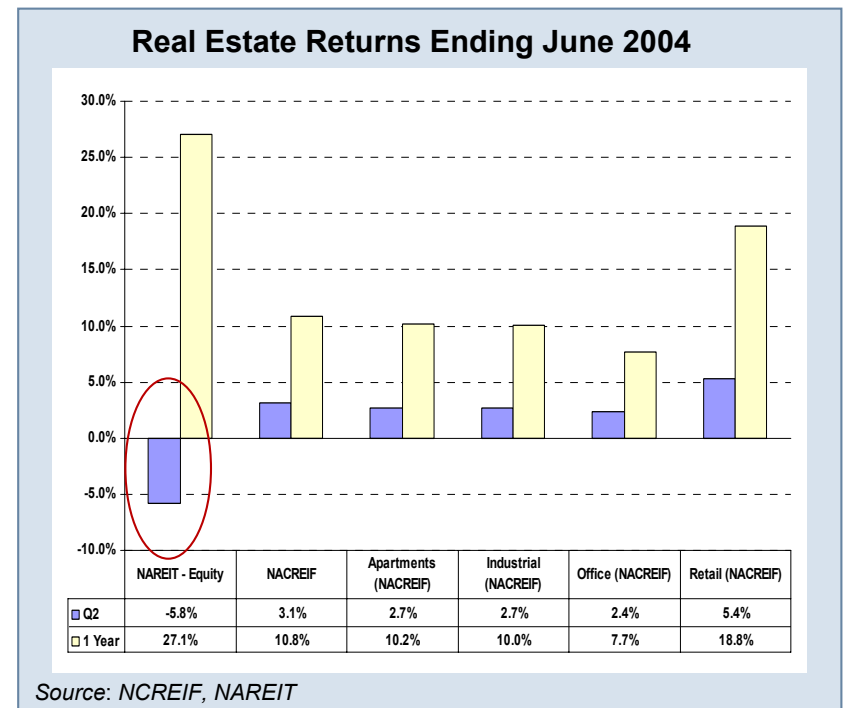


Source: Lehman Brothers/ LB Govt/Credit

Real Estate

REITS Returned -5.8%; Direct Real Estate Earned 2.6%

- While REIT indices lost money for the quarter, the money was lost in a 15% drop in April; May and June showed gains.
- Direct real estate fared well for the quarter, with retailers continuing to outperform other segments.
- Many plans are looking to real estate, not for return but for portfolio risk reduction, and focusing on the diversification benefits and lower absolute volatility.





ASRS Total Fund Performance

Total Fund Performance

For Periods Ending June 30, 2004

	<u>Quarter</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>Inception</u>
Total Fund	0.1%	17.5%	3.3%	2.5%	11.0%
Benchmark*	0.3	15.7	2.8	1.3	9.2
R/M Public Funds Median	-0.1	17.5	4.5	4.1	—
Percentile Ranking	38	51	92	96	

* Interim Benchmark of 56% S&P 500/28% LB Aggregate/16% EAFE, which incorporates a proration of 6% real estate.

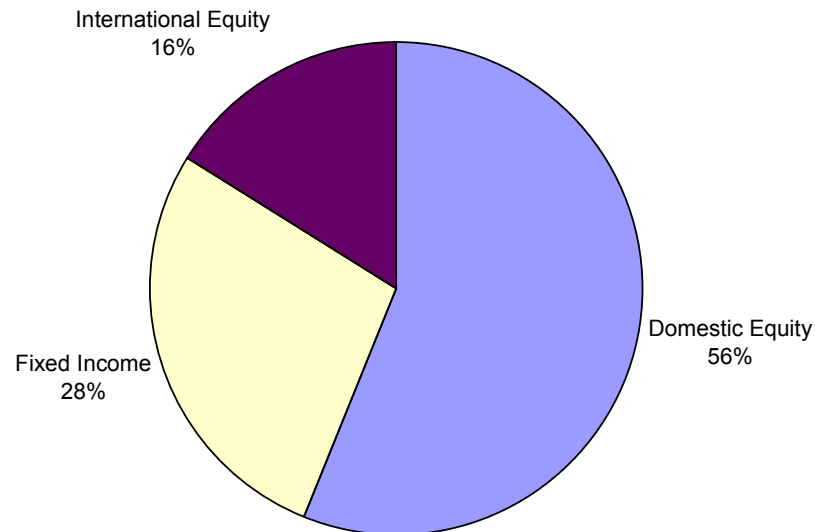
Policy History:

- 1/1/89-12/31/91 – 60% S&P 500/40% LB Aggregate
- 1/1/92-12/31/94 – 50% S&P 500/40% LB Aggregate/10% EAFE
- 1/1/95-6/30/97 – 45% S&P 500/40% LB Aggregate/15% EAFE
- 7/1/97-12/31/99 – 50% S&P 500/35% LB Aggregate/15% EAFE
- 1/1/00-9/30/03 – 53% S&P 500/30% LB Aggregate/17% EAFE
- 10/1/03-present – 53% S&P 500/26% LB Aggregate/15% EAFE/6% Custom Real Estate Benchmark.

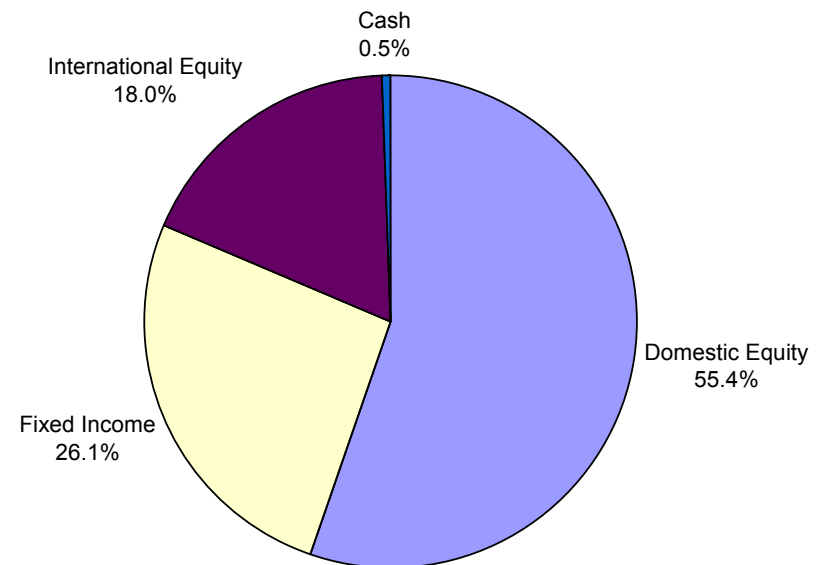
Total Fund Asset Allocation

June 30, 2004

Policy Adjusted for Transition into Real Estate



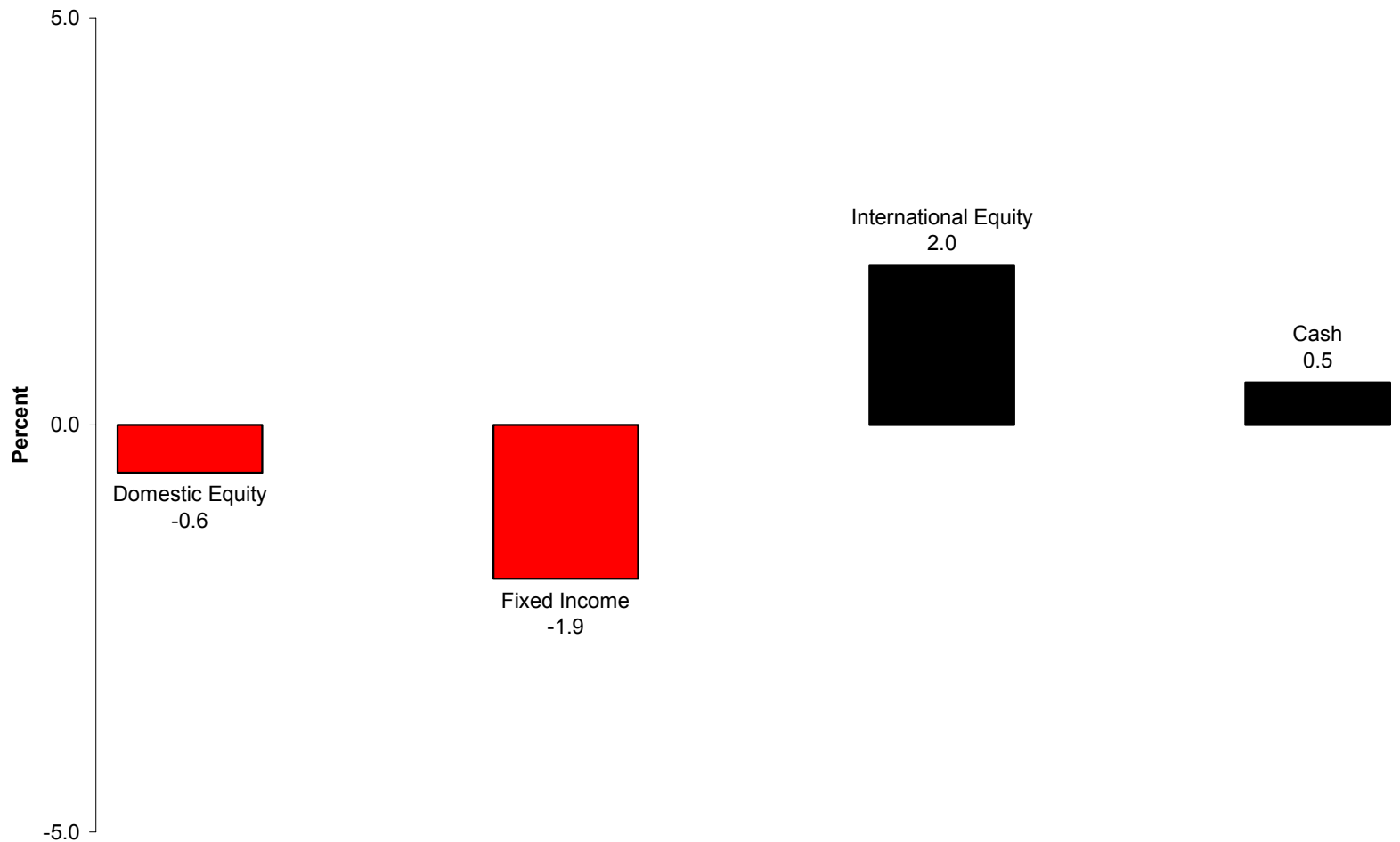
Actual Allocation



Total Fund Asset Allocation

June 30, 2004

Asset Allocation vs. Policy Adjusted for Transition into Real Estate



Total Fund Performance

For the Year Ending June 30, 2004

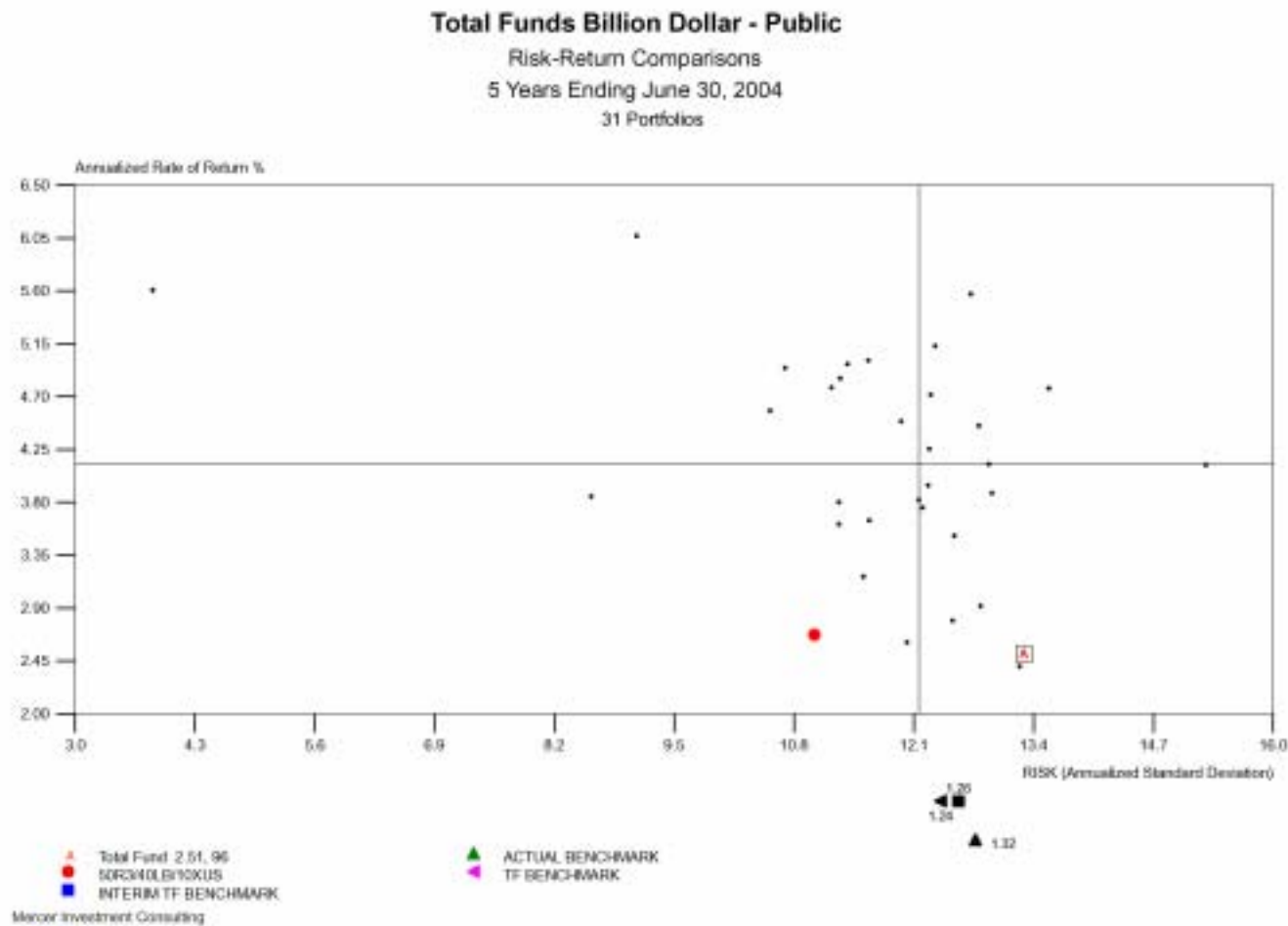
- Measured against:
 - Asset Allocation Target of 8.5% annually
 - Total Fund has outperformed by 9.0%
 - Inflation + 3.0% annually
 - Total Fund has outperformed by 11.3%
 - Actuarial assumption rate of 8.0% annually
 - Total Fund has outperformed by 9.5%

Total Fund Growth

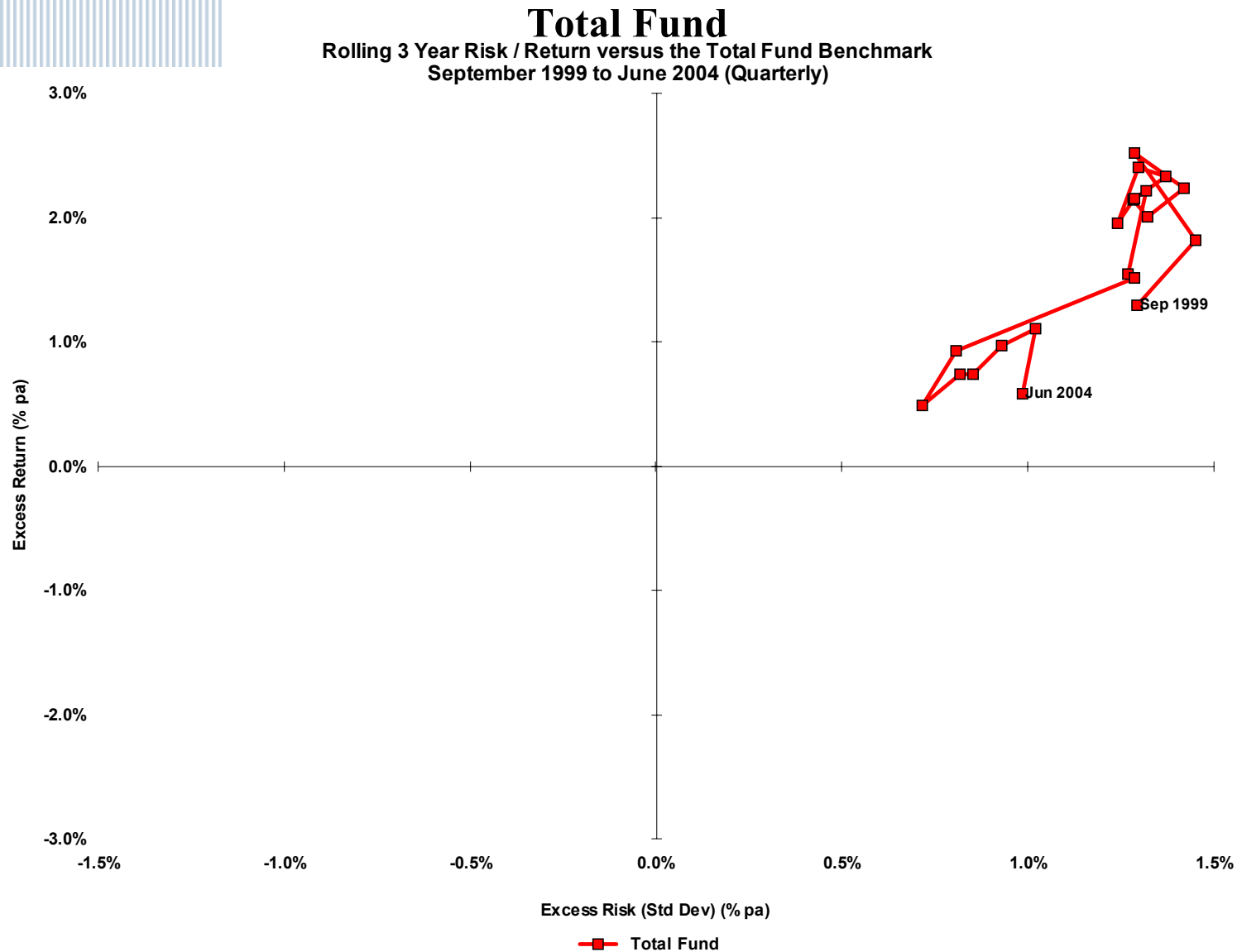
Total Fund
Value of \$100 invested in US Balanced from Jul 1999 to Jun 2004



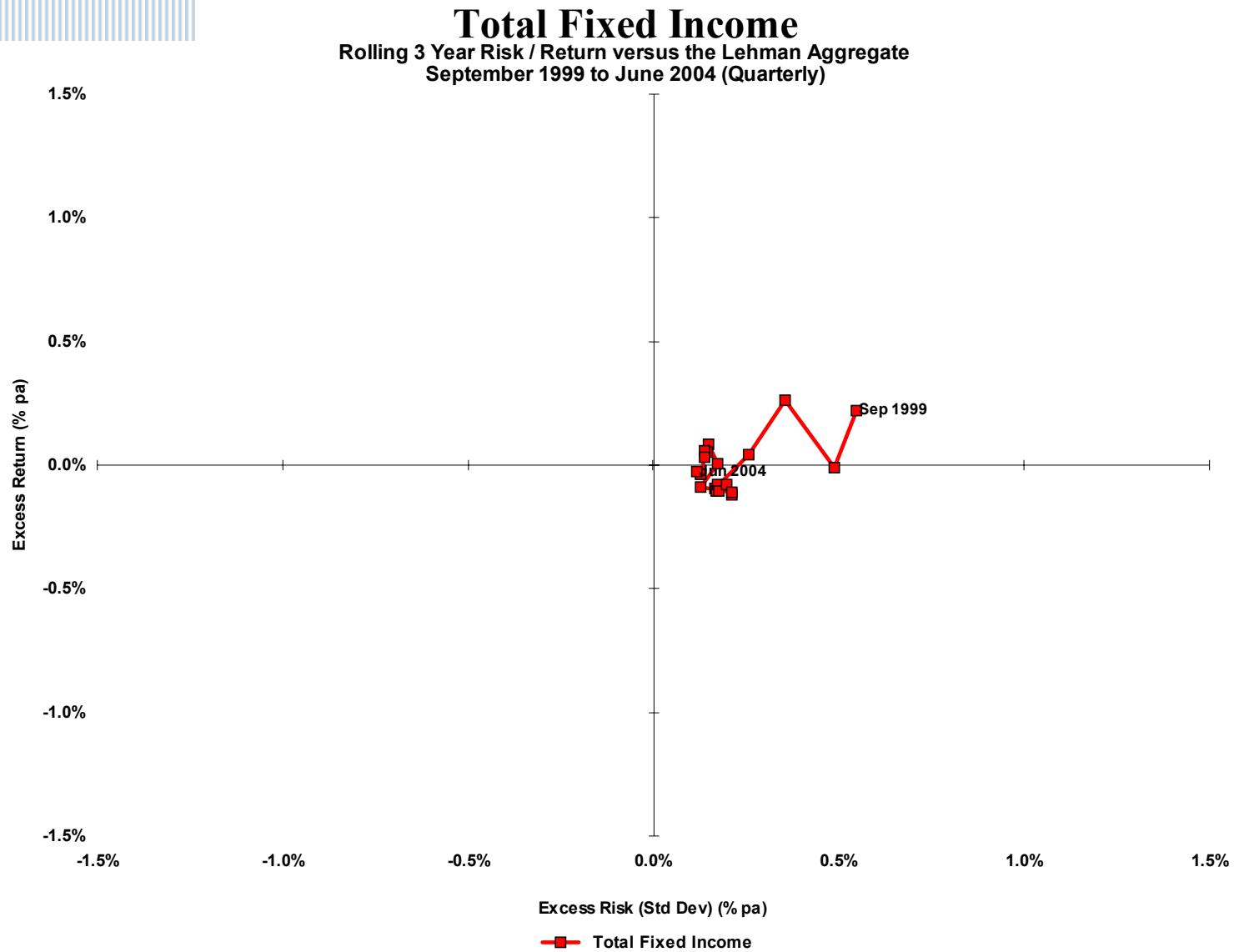
Total Fund Return/Risk Analysis



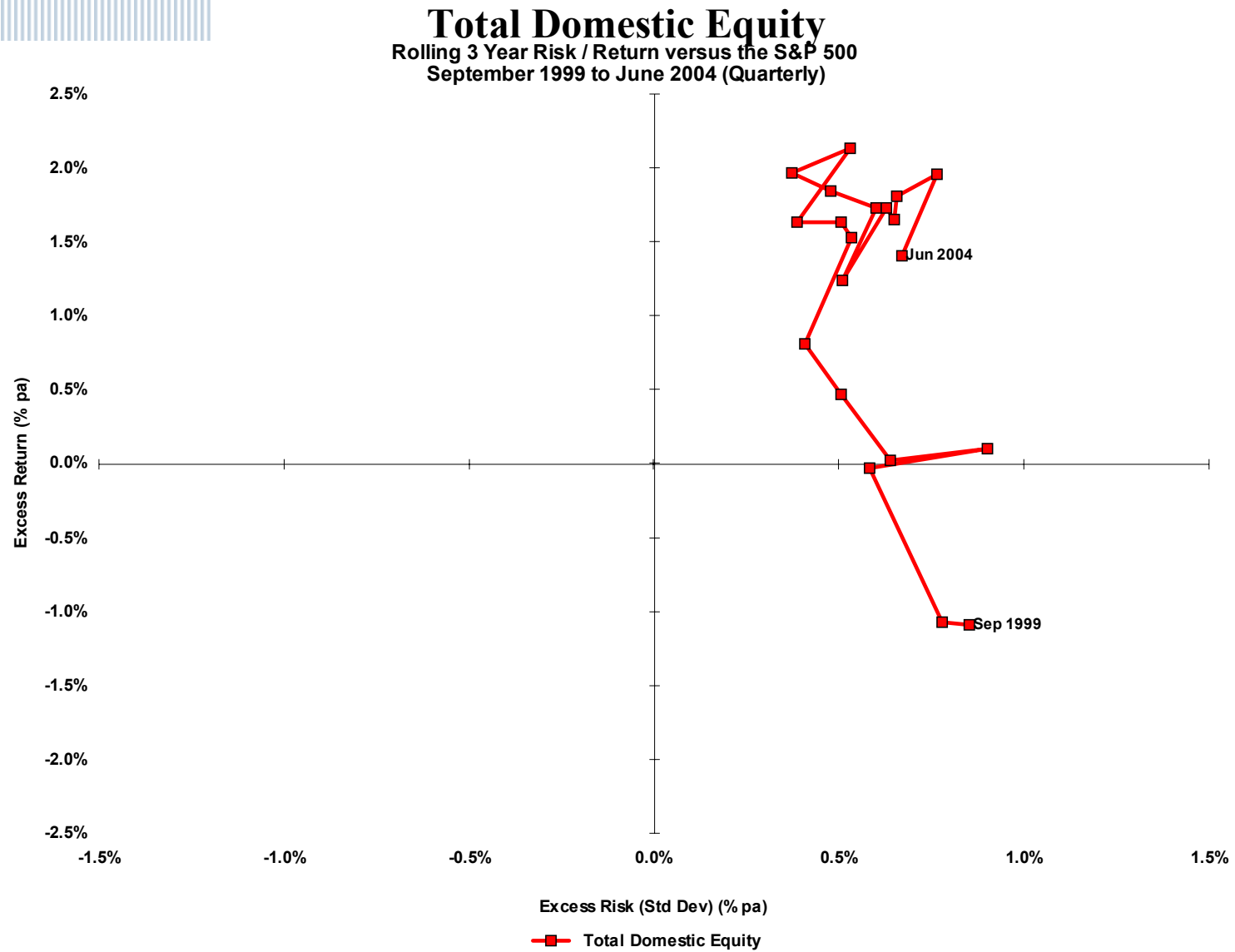
Risk/Return Analysis



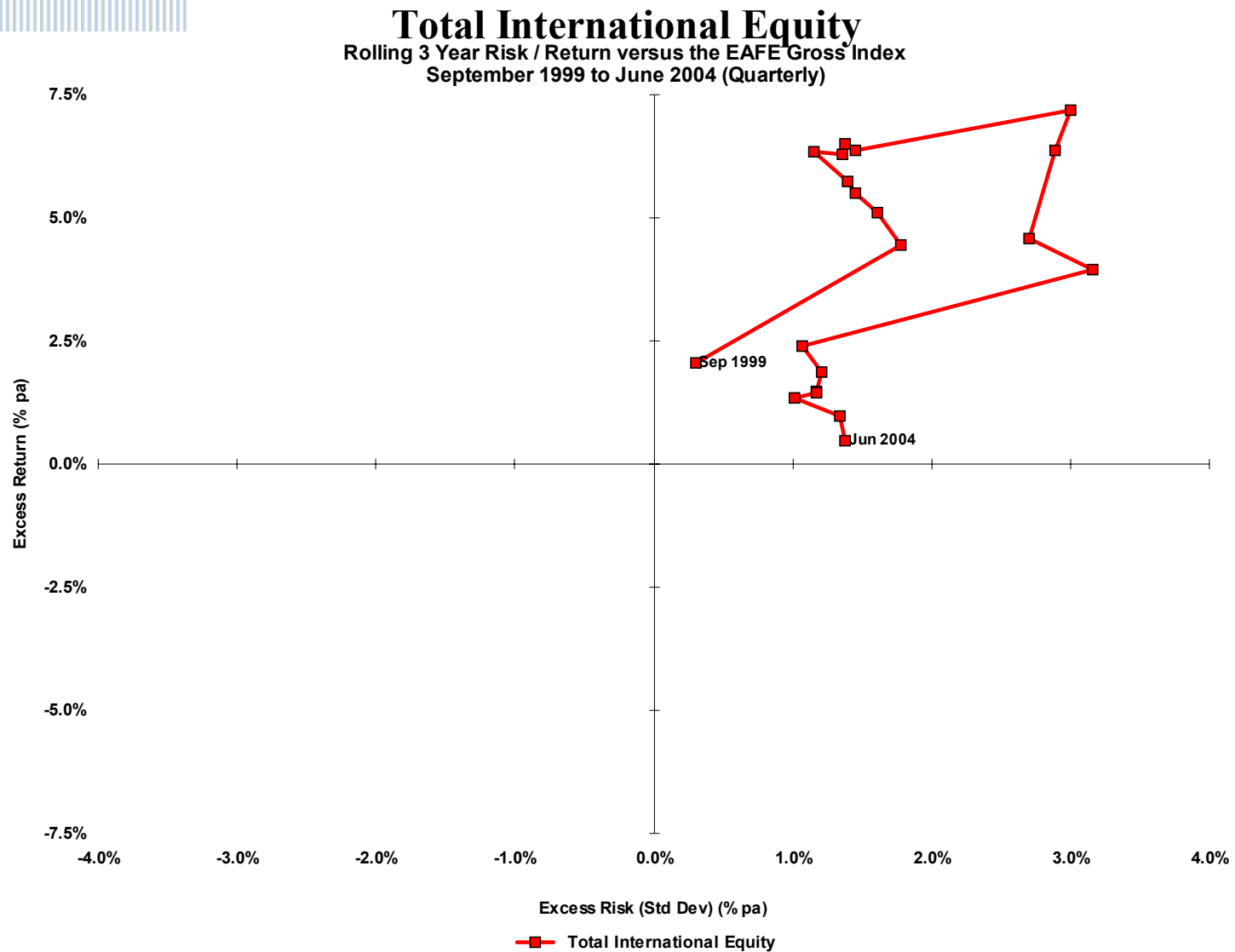
Risk/Return Analysis



Risk/Return Analysis



Risk/Return Analysis



Performance vs. Benchmarks

For the 3 Years Ending June 30, 2004

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	3.3%	7.4%	15.4%	13.4%
Benchmark	2.8		14.5	
Domestic Fixed	6.3	4.5	4.4	6.0
LB Aggregate	6.4		4.3	
Domestic Equity	0.7	8.5	22.3	18.6
S&P 500	-0.7		21.6	
Intl. Equity	4.7	8.5	24.5	21.9
EAFE	4.3		23.1	

Performance vs. Benchmarks

For the 5 Years Ending June 30, 2004

	<u>Return</u>	Assumed <u>ROR</u>	<u>Std. Dev.</u>	Assumed <u>Std. Dev.</u>
Total Fund	2.5%	7.4%	13.6%	13.4%
Benchmark	1.3		12.8	
Domestic Fixed	6.9	4.5	3.8	6.0
LB Aggregate	6.9		3.7	
Domestic Equity	-0.5	8.5	19.8	18.6
S&P 500	-2.2		19.4	
Intl. Equity	3.4	8.5	22.6	21.9
EAFE	0.4		20.9	